

A FURTHER VIEW OF THE MANAGEMENT OF THE
DEFORMITY OF HIP DISEASE.

BY

A. B. JUDSON, M.D.,
NEW YORK.

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HAVING tested by further experience the value of a promising method of preventing and correcting the deformity of hip disease, I desire to call attention to the subject again. In a paper read before the Association in 1889 a number of clinical facts were set in order, and from them deductions were made in favor of this method, which, omitting preliminary and argumentative matter, may be said to consist in the education of the patient, wearing the hip splint, to the habitual observance of the normal rhythm of human locomotion. At the risk of repetition, I will recall a few points.

The deformity and factitious shortening are caused by the patient's instinctive and habitual effort to keep the affected limb clear of the ground by elevating the pelvis on that side, with adduction as a necessary accompaniment (flexion and adduction are here considered in the same category). The patient does this to escape the pain which might come from a sudden and unexpected contact of the foot with the ground, and also to withhold the bad foot from the ground in favor of the well one, which hastens forward to do the work. The result is that the affected foot visits the ground for a moment only while the well one lingers on the ground, and the natural rhythm, or time, is destroyed. True time may be expressed as follows:

One—two—one—two—one—two—one—two,

and false time thus:

One—two——one—two——one—two——one—two——one—two.

It is found that if the patient gives up false and resumes true time, which can be done by an effort of the will or as the result of drill, the affected limb gives up some of its adduction and flexion, in order to reach the ground more conveniently to do its share of the work;

with this come also horizontal adjustment of the pelvis and a decrease of shortening.

Violation of rhythm and the deformity appear to be incidents of nature's method of protecting the diseased joint from pressure and concussion by transferring a large part of the work of locomotion from the affected to the sound limb. One of the advantages of treatment by the isehiatic crutch is that it furnishes complete protection with a return to natural rhythm and release from adduction, apparent shortening and tilting of the pelvis. This will demand an apparatus strong enough to give to the body the support which it is accustomed to receive from a well limb.

Patients who have recovered with serious lameness, when instructed in this simple mystery, have overcome a large part of their lameness and deformity by learning to observe natural time in walking—an improvement which could not be expected, of course, if bony ankylosis were the result of hip disease. It is an interesting fact that throughout the early and active stages of the disease the position of the limb readily yields without pain to a slight amount of continuous force. Even after recovery the condition is far from immobilization or intractable fixation.

It may be said, by the way, that the rhythm of human locomotion is a subject which has probably not received the attention to which it is entitled. The very simplicity of the normal rhythm makes a slight deviation from it very noticeable, as in the incipient lameness of a child who simply accentuates the blow given to the ground by the well foot. Violation of rhythm is one of the constituents of lameness. Lameness is asymmetrical walking, symmetry of gait requiring similarity of the two limbs not only in their length and relation to the rest of the body, but also in their movement. It is a point of practical importance that the lame needlessly add to their lameness by neglecting to keep correct time with their feet. A well person can pass for lame by the simple device of giving more time to one foot than to the other, a matter capable of instant demonstration, and one who is lame can lessen the appearance of being so by observing the natural rhythm of locomotion. If the trouble is the result of hip disease, not only is the appearance improved, but the cause of the lameness is by this method lessened with the removal of adduction and undue flexion.

This method is naturally placed in comparison with operative correction. Warm personal regard for Dr. V. P. Gibney would make me hesitate to differ with him in opinion. He will, however, enjoy with me the humorous element which comes to light in his having referred to the wrong boy in his argument in favor of operating for the correction of these deformities. In giving the previous history of one of the cases in which he had operated with excellent success

FIG. 1



FIG. 2.



CASE I.—Duration of disease before treatment nineteen months. Under treatment two years, five months. Photographed in 1879, six months after treatment. Age, nine years.

he says: "Dr. Judson finally succeeded in arresting the disease, presenting his case as cured in a series reported in Vol. II of the *Transactions* of the Academy."¹ This boy was badly deformed, with good reason, as will appear further on, but he was not in the series presented to the Academy. The patients so presented had recovered with but little flexion and adduction. Their condition soon after treatment and twenty years later is shown in Figs. 1 to 10.

¹ TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION, vol. vii. 1894, pp. 195-197; The International Medical Magazine, November, 1894, vol. iii. pp. 713. 714.

The boy on whom Dr. Gibney operated was described by me on another occasion as showing bad deformity, the result of careless walking, in the following words. In the same connection I referred to two other patients who had avoided deformity by walking symmetrically. I reproduce the whole passage, substantially as follows:

FIG. 3.



FIG. 4.



CASE I.—Photographed 1899, twenty years after treatment. Age, twenty-nine years.

“Why do patients similarly affected and treated exactly alike recover with such different degrees of deformity? A young girl, for instance, was in the third stage before treatment was begun, in May, 1880. She has recovered with no adduction, almost no flexion, and with very little lameness. I attribute this good position to the fact that her mother was very anxious about her only daughter and was always with her, so that every step the child took, wearing the hip-

splint, was taken under the necessity of appearing as well as she could. Her steps were timed equally, and her affected limb assumed and retained a useful position, because it had to do, so far as was possible, one-half of the work of locomotion.

"A boy recovered (treatment begun June, 1883) from the disease in a more moderate form, but he limps about most awkwardly, with

FIG. 5.



FIG. 6.



CASE II.—Duration of disease before treatment one year. Under treatment two years, seven months. Photographed in 1880, eight months after treatment. Age, six years. Examined 1899, twenty years after treatment. Age, twenty-six years. Condition like that of Case III in 1899, excepting that there is one and a quarter inch of real shortening.

twenty degrees of adduction and fifty degrees of flexion. I explain his bad position by the fact that his mother, one of the best women in the world, was busy out of the house every day, leaving at home all day her family of four boys. As the patient was most of the time in excellent general health, he vied with his brothers in all their games, and developed his well limb at the expense of the affected one, which was elevated and adducted to keep it out of the way.

"In another case (treatment begun November, 1883) the patient, who recovered after long-continued purulent discharges, was a girl endowed with uncommon beauty, and although she was by no means docile, and under very little restraint at home, her vanity led her to try to appear to the best advantage, and, thanks to her careful gait and studied attempts to be graceful, she now walks with very little lameness, with flexion not more than ten degrees, and no adduction.

FIG. 7.



FIG. 8.



CASE III.—Duration of disease before treatment four years. Under treatment four years. Photographed in 1879, eighteen months after treatment. Age, thirteen years.

"I advise special attention to the manner of walking, insisting on the patient's keeping time in his steps, so far as is practical, and leading him to adopt a proud bearing. A girl is told to practice deportment before a looking-glass, and the parents are informed of the importance of encouraging the child to adopt deliberate and graceful movements on all occasions."¹

¹ TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION, vol. ii. 1889, pp. 181-183.

These views¹ have been but confirmed by intervening experience. Intractable cases will occur—exceptions, perhaps, to prove the rule—like that of the boy referred to. For him there was no resort except to operative correction, which was well done by Dr. Gibney, as shown in the photographs which form a part of his valuable paper.

FIG. 9.



FIG. 10.



CASE III.—Photographed 1899, twenty-one years after treatment. Age, thirty-three years.

The series referred to, showing the results of treatment in severe cases, was reported to the Academy in April, 1880.² Their condition at that time and also twenty years later is shown in the figures, so far as photographs could be obtained. These patients were all ad-

¹ See, also, *St. Louis Courier of Medicine*, May, 1881, vol. v. p. 372; *Medical Record*, May 21, 1887, vol. xxxi. p. 586.

² *Illustrated Medicine and Surgery* (Fox's Quarterly), New York, April, 1882, vol. i. pp. 45-52. See, also, *Medical Record*, October 28, 1893, vol. xlv. pp. 545-548.

vanced in the third stage in its worst features before treatment was begun, and their recovery was something in the nature of a surprise. In fact, the series would have contained four cases if a patient similarly affected and under treatment had not died of tubercular meningitis.¹ The method is applicable as well to cases of moderate severity, a number of which were reported in the *American Medico-Surgical Bulletin*, January 1, 1895, vol. viii. pp. 4-6. In orthopedic charities, where patients equipped with the ischiatic crutch might be formed into companies, military drill would doubtless do much toward securing a final good position of the limb, remembering that complete success will depend largely on an exact adjustment of the apparatus. In cases of recovery with normal motion in the joint the question of the management of deformity is happily shut out.

¹ Medical Record, May 1, 1880, vol. xvii. pp. 490, 491.